

Annual Peak-Flow Frequency Analysis

For more information on the contents of this documentation, see Kessler and others (2013).

Streamgage number and name:

05219000 Sandy River at Sandy Lake Dam, at Libby, Minn.

Peak-flow information:

Number of systematic peak flows in record	13
Systematic period begins	1982
Systematic period ends	1994
Length of systematic record	13
Years without information	0
Number of historical peak flows in record	0

Frequency analysis options:

Method	Expected moments algorithm (EMA)
Skew option	Streamgage
Low-outlier method	Multiple Grubbs-Beck test

EMA systematic record analysis results:

Moments of the common logarithms of the peak flows:

	Standard		
Mean	deviation	Skewness	
3.1800	0.0826	0.122	

Low-outlier information:

Number of low outliers	2
Low-outlier threshold	1,300

Final analysis results:

Moments of the common logarithms of the peak flows:

	Standard	
Mean	deviation	Skewness
3.1800	0.0826	0.122

Annual frequency curve at selected exceedance probabilities:

Exceedance probability	Peak estimate	Lower-95 level	Upper-95 level
0.9950	948	218	1,280
0.9900	989	297	1,280
0.9500	1,110	603	1,280
0.9000	1,190	770	1,310
0.8000	1,290	848	1,410
0.6667	1,390	1,000	1,580
0.5000	1,510	1,320	1,730
0.4292	1,560	1,370	1,800
0.2000	1,770	1,550	2,160
0.1000	1,940	1,680	2,990
0.0400	2,130	1,830	4,290
0.0200	2,260	1,940	5,200
0.0100	2,400	2,030	6,000
0.0050	2,520	2,090	6,930
0.0020	2,690	2,170	8,560

Peak-flow data used in the analysis:

Explanation of symbols and codes

K Peak affected by regulation

* Less than low-outlier threshold

Water	Peak	Peak-flow
year	flow	code
1982	1,840	K
1983	1,310	K
1984	1,690	K
1985	1,320	K
1986	2,040	K
1987	1,300	K
1988	648	K *
1989	1,400	K
1990	1,900	K
1991	1,820	K
1992	996	K *
1993	1,610	K
1994	1,430	K